

Introduction: Telework in the 21st Century

This volume presents the work of twelve distinguished scholars, economists, social scientists and others as an attempt to contextualize and to explicate many of the dynamics involved in this new phenomenon in the American workplace: “telework.”

As the century began, America was enjoying the longest, strongest economic boom in its history. Over 22 million jobs had been created since 1993 and unemployment was at a 30-year low. Record deficits had been transformed into record surpluses, productivity was rising at spectacular rates and inflation remained low.

This prosperity brought with it many new challenges. Employers had trouble finding skilled workers. Workers often needed training or retraining to seize the new opportunities. Workers found it increasingly hard to balance the demands of work and family.

One of the foundations of the new economy is the ever-widening use of modern technology in the workplace. Moreover, that technology, such as computers, the Internet, e-mail, fax machines and mobile phones, makes it possible for today’s workplace, for many workers, to be almost anywhere — the automobile, the field, even the home. By some estimates, between 13 and 19 million Americans are engaged in what once was called telecommuting and is now more often called telework. The proponents of telework contend that it has the potential to enhance workplace diversity, help workers balance work and family, and make workers more productive and employers more competitive.

Telework raises some serious, yet to be answered questions. How does one manage a remote work environment? How should employers evaluate the performance of a teleworker? What is the definition of overtime for the teleworker? Does this create further isolation for disabled workers? Are ageism and sexism issues in this discussion? Is telework here to stay, i.e., might telework bring about an historic restructuring of how Americans work?

A lot is known from qualitative studies, although the evidence has not been reviewed and published in a comprehensive volume. Further, we have all too little evidence of telework’s impacts from quantitative studies. That is why the Department of Labor’s Employment and Training Administration’s (ETA) Five-Year Research Plan for July 2000-June 2005 instructed the Department to carry out research on telework’s potential impact on work, workers and society.

As a major step in addressing these issues, Secretary of Labor Alexis M. Herman convened a national symposium at Xavier University in New Orleans on October 16, 2000. This unprecedented symposium made possible a day of stimulating discussion by about 150 of the nation’s leading experts in the field of telework, including academics, economists, public officials, corporate executives and representatives of organized labor.

This volume contains revised versions of twelve papers that were presented at the symposium, along with comments that a variety of scholars and practitioners provided on each paper.

In general, the papers address three basic themes: (1) telework's potential to help employers address the skills shortage; (2) help workers meet family obligations; and (3) help society achieve greater workplace diversity. By and large the writers are optimistic about telework's ability to raise productivity, lower absenteeism and benefit families, yet they also point out potentials for problems and abuse.

The writers note that telework has spread much faster in the private sector than in government, and that serious barriers to expansion exist in both sectors. Not surprisingly, two of the greatest barriers are managers and employees who resist change.

The authors all agree that consensus needs to be reached on the definition of telework. Most feel that more quantitative evidence from research and demonstration projects are needed. Particular focus should be placed on defining the characteristics of teleworkers, evaluating the long-term impact of telework on commuting patterns, assessing telework tax incentive programs, measuring the impact of telework on unionization, and carrying out demonstration projects to determine whether urban telework centers can form part of effective economic development strategies.

The twelve papers are organized around three broad topics: the evolution and economics of telework; telework's impact on organizational behavior; and the cultural and societal implications of telework. Taken together, these studies are the most comprehensive examination of telework that has yet been made.

Part I: The Evolution and Economics of Telework

The papers in Part I by Van Horn and Storen; Helling; Lovelace; and Doherty, Andrey and Johnson set the stage for those that follow by addressing who teleworks and why, and the technologies that make telework possible.

Van Horn and Storen begin by defining telework as working at home, away from an employer's place of business, and using information technology such as the Internet, computers and telephones. They report that the typical teleworker is a college-educated, white, 34- to 55-year-old man who earns more than \$40,000 a year and owns a computer. The largest fraction of teleworkers are professionals, at 37%, followed by clerical and sales at 14%. Technical, service and managerial jobs each make up 12% of the teleworkforce.

The authors see many factors contributing to increased telework, including a decline in technology and telecommunications costs, increasing investments in digital technology, and an increasing demand for information technology jobs. But they see significant barriers to adoption. To begin with, many employers embrace an industrial management style not conducive to managing teleworkers. Second, the potential financial advantages of telework are not universally understood or realized by employers and the evidence is not sufficiently persuasive; many employers still regard telework as cost-prohibitive or lack the manage-

ment expertise to implement telework programs. Finally, several public policy issues that influence telework remain unresolved, such as the success of tax incentives in encouraging telework.

Glenn Lovelace's paper describes the technologies that make telework possible. He points out that, during the past five years, cost reductions in home technology, along with increased bandwidth and Internet-based efficiency, have made it possible for even those who work from home to be provided advanced equipment and access to a greater menu of services.

For example, advances in voiceover Internet protocol (voiceover IP, VoIP) are expected to provide fluid telephone service via the Internet. Internet calls are predicted soon to rival the quality of telephone landlines. Unified messaging, which converts all of the voice traffic currently on telecommunications lines into data packets so that the PC and Internet can provide everything from phone calls to faxes and e-mails, will emerge as a useful tool. In addition, greater bandwidth and enhanced technology will improve online presentations and desktop teleconferencing, wireless access is becoming more widespread and less expensive, and virtual private networks will allow employees to work off-site as if they were connected to their organization's internal network.

Amy Helling's paper points out that telework arrangements share certain characteristics: they offer employers ways to reduce costs, increase productivity, or both; they offer workers ways to increase their flexibility, increase their productivity, or both; and they have the potential for far-reaching impact on our society, including how much and where people travel, where they locate their homes and businesses, and what quality of life they can achieve.

Helling draws upon the 1995 Nationwide Personal Transportation Survey (NPTS), a periodic federal survey, to describe the travel patterns of teleworkers. She finds that those who telework from home at least once every two weeks make up the largest group, at 8.8% of all workers (traditional workers and workers in telework arrangements). Workers whose home is their primary work location make up another 5.7% of workers. Surprisingly, home-based mobile workers who travel significantly are a very tiny group, representing only 0.1% of all workers. However, other mobile workers who report no fixed place of work make up about 2.1% of workers. She also examines ways that gender, education, occupation, income or place of residence may limit a worker's ability to engage in telework. In fact, telework arrangements could further isolate particular groups.

Sean Doherty, Jean Andrey and Laura Johnson build on Helling's framework by describing the occupations in which telework is most prevalent and reviewing telework's qualitative and quantitative impacts on productivity, absenteeism, and the composition of the workforce. They report that concrete data with which to measure productivity typically does not exist or is not publicly available, although subjective evaluations usually suggest at least modest gains. Telework appears to reduce absenteeism and improve retention rates.

Doherty, Andrey, and Johnson conclude that telework helps disabled workers, caregivers and rural residents obtain and retain employment. However, they agree with Helling that such gains may come at the cost of further social isolation. Doherty, Andrey and Johnson caution that their conclusion is based mostly on qualitative studies. Doherty, Andrey and Johnson stress the need to strengthen the methodological and

quantitative nature of telework research, and they call for the use of multi-actor and multi-instrument research designs with representative samples and control groups.

Part II: Telework and Organizational Behavior

These four papers examine telework from the perspective of human resources.

Drawing on 20 years of experience in implementing telework programs, Gil Gordon explores the impact of telework on the nature and structure of work and on life in the typical organization. He points out that telework can serve as an organizational mirror, revealing flaws in its communications and elsewhere. He notes that telework raises serious questions about decision-making and organizational structure because it allows faster, lower-level decisions to be made. Gordon believes that telework raises questions about the role and future of managers, which may explain the resistance to telework noted by many of the authors.

Gordon raises the point that the distinction between where employees work and where their workplace is located must be resolved. Once done, the effects of telework tax incentives can be better understood. Overall, he suggests that telework can be a powerful catalyst for forcing organizations to analyze their work methods and their assumptions about work location, as well as to improve efficiency and reduce costs.

Charles Betsey and George Baffour examine the job analysis, staffing, supervision, training, performance evaluation and compensation policies needed for effective telework. Telework effectiveness requires the identification of jobs whose characteristics are amenable to telework as described in the Helling chapter. Jobs such as salespersons, technical customer service personnel, consultants and auditors can be converted into full-time telework jobs, while converting jobs that require face-to-face interaction with customers and co-workers into telework jobs would be considerably more difficult. Given the desire to resist change, the challenge for employers and employees is to be creative in thinking about whether a job has components that may be adaptable to telework.

Betsey and Baffour point out that, because of the nature of telework, it is important that workers share the work ethic and values of the organization. They suggest that employers may want to hire from within the organization to obtain workers who have time management skills and who are self-motivated, confident, trustworthy and able to work independent of direct supervision. Finally, teleworkers need other non-job-related skills such as computer and communications technology literacy and the ability to speak clearly and be good listeners so that they can transmit and receive information effectively.

Monitoring the performance of teleworkers is another key management issue. Remote management requires managers to understand better the personality traits, skills, and work styles of their staff. Managers should be able to replace visual cues by actions such as the time it takes for a teleworker to reply to e-mails, or for the teleworker to return phone calls from his or her supervisor.

Betsey and Baffour show that, in a telework environment, direct observation will usually not be possible. Thus managers will have to rely more on evaluating work outcomes, such as productivity, instead of work processes. Because of the difficulty in monitoring and evaluating teleworkers, Betsey and Baffour hypothesize that managers might be willing to pay a wage that exceeds the wage of non-teleworkers, hoping to attract motivated teleworkers. However, as Doherty, Andrey and Johnson illustrate, the evidence is inconclusive in this area.

Telemanagers, Betsey and Baffour say, may need training in setting goals and solving problems, while home-based workers may need training in ergonomics, safety and liability issues, and effective techniques for working from home.

Patricia Riley, Anu Mandavilli and Rebecca Heino's longitudinal study moves in the direction that Doherty, Andrey and Johnson recommend. Riley and her colleagues report the six-month results that occurred when digital subscriber lines (DSL), a message center, and other calling services were installed in the home offices of teleworkers. They found that the workers were more efficient and productive after receiving the new communication technologies. The workers were proud of their independence and their supervisors' trust in them, confirming the view of many authors that a major ingredient of a successful telecommuting arrangement is that managers are enlightened and comfortable with remote employees.

Riley, Mandavilli and Heino find that telecommuters are not necessarily left out of office networks, nor do they experience a weakening in personal relationships with their virtual co-workers. In fact, it appears that virtual groups are able to go beyond a business environment to build personal relationships: one of the participants described a "virtual roast" she had organized for a member of her workteam. Overall, the authors believe it is becoming culturally more acceptable to deal with people at a distance. These six-month results are quite positive; however, the longitudinal nature of the study will allow us to see if these benefits remain and whether new benefits and challenges emerge.

Wendell Joice examines the federal government's telework initiative. The initiative is an on-going demonstration of successful partnerships between the federal government, state and local governments, and private sector organizations. Like other authors, Joice finds that successful telework implementation requires a cultural change on the part of managers. Most current managers were trained in operating in an industrial era workplace and now they are being asked to change ingrained attitudes and behaviors.

Joice cautiously supports the collection of "hard data" to evaluate the human resource, pollution, and traffic congestion impacts of telework. Credible assessments and measures are valuable and needed for the workplace.

He effectively demonstrates that the challenges confronting federal telework are not limited to the federal government. Ingrained attitudes and behaviors may create insurmountable barriers such that training may not be effective. Joice urges that to create institutional "buy in," proponents of telework need an array of experiential and reinforcement interventions such as requirements to implement telework programs, support mechanisms, pilot projects, and new administrative ways of providing incentives for change.

Part III: Cultural and Societal Implications

The final four papers explore the cultural and societal implications of telework.

Robert Kominski uses the federal government's Current Population Survey's (CPS) computer supplements to track home computer use. He reports that, in 1997, only one in ten households with family income of \$15,000 a year or less contained a home computer, compared with three-quarters of households with an income of \$75,000 or more. He also finds that computers are more often found in households with higher levels of education, and that there are also geographic variations, with 10% more households in the West having computers than in the South. Across occupation categories, half of managers and professional workers who had a computer at home reported they used it to work at home. But far smaller proportions of persons in service and laborer occupations are able to report the use of a home computer to do their job.

Since the CPS supplements are focused so broadly, they are unable to address some of the social and cultural details that emerge once people are enabled to work in the home. There are numerous issues that quickly come into play: for example, the use and boundaries between work and non-work time; the ability to accommodate family and other activities; economic considerations; social relationships among workers; and management control. Kominski concludes that each of these topics is worthy of study and investigation, and in order to do so, will require dedicated, focused data to inform the analyses. A combination of both small- and large-scale studies will be necessary to provide useful data.

Anil Kukreja and George Neely suggest a framework for closing the digital divide that too often exists for persons with disabilities and for unemployed persons in both urban and rural areas. The framework's success is contingent on employers being able to identify individuals who are self-motivated, self-disciplined, self-confident, able to work with minimal supervision, and proficient in the use of information technology. The Kukreja/Neely model includes the following steps: (1) identify the skill areas in which training is needed; (2) establish partnerships among local universities, colleges, government, and other organizations to develop a training program; (3) assess the skills of the participants; (4) provide a modular, online training program; (5) implement an online assessment system; (6) award certificates to individuals who complete the training; and (7) develop a Web site with job seekers' resumes and employers' job listings. Kukreja and Neely address issues that need to be considered for each of the three populations and provide several concrete suggestions, such as a mobile training center for persons with disabilities and rural job seekers, and a strategy for implementing their model.

Joanne Pratt addresses the important question of whether telework is a limited, isolated work pattern or part of a larger phenomenon — an historic reorganization of how Americans work. She concludes that telework is a true reorganization of the workplace, both in concept and execution. In telework, people work wherever it makes the most sense to work, and a new kind of manager coordinates small groups that operate as self-directed virtual teams. Moreover, because the virtual office never closes, workers must define the boundaries between work and their private lives in their homes. Pratt briefly discusses the government's roll in telework, concluding that it is not yet clear what, if any government action is needed. She agrees with other writers that many questions remain unanswered.

In the final paper, Ellen Galinsky and Stacy Kim, drawing on a national sample of working mothers, working fathers and students from the 3rd to 12th grades, give us the first documentation of the actual experiences of children whose parents work at home. They conclude that telework can be beneficial for parenting, but that depends on how it is implemented. Their real-world analysis challenges many assumptions about telework's impact. For example, they find that children may perceive teleworking fathers as working too much, being in a bad mood more often, and letting their work interfere with their parenting. Their work reinforces the view that telework has costs as well as benefits.

Taken together, these twelve papers provide an excellent starting point for policy-makers, academics, employers and workers to have informed and productive discussions about the future of telework. The participants in the October symposium began an important dialogue; now, with the publication of this volume, their findings and ideas can be shared with a larger national audience. But this is only the beginning. All of the authors and participants in the symposium asserted that the potential of telework cannot be realized without a larger national research and demonstration effort that identifies and evaluates the benefits and costs of telework.

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